

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Bleys et al.	§	Confirmation No.: 8094
	§	
Serial No.: 09/914,537	§	Art Unit: 1796
	§	
Filed: December 13, 2001	§	Examiner: Rabon A. Sergent
	§	

Title: Process for Preparing Molded Polyurethane Material

RULE 1.132 DECLARATION OF HERMAN EUGENE GERMAIN MOUREAU

I, Herman Eugene Germain MOUREAU, the undersigned, state the following:

1. I have a chemical education from REGA in Leuven, Belgium that is equivalent to a bachelor's degree.
2. I have been employed in the polyurethanes industry since 1988 and have worked with Huntsman since 1999; my current title is Application Specialist Automotive and Flexible.
3. I have read US Patent 5,399,310, issued to Payne et al. (hereinafter "Payne" or "the Payne reference").
4. To demonstrate the effect that Payne's mould release agent has on a flexible polyurethane foam moulding process, flexible polyurethane foams having a density of about 80 kg/m³ were made. The formulations for the polyols used to make the flexible foams are set forth in the attached Exhibit in % wt.
5. The first foam prepared according to Example A of the Exhibit was demoulded after 4 minutes and a second foam of the same formulation was prepared but without prior treatment of the mould with release agent. The second foam stuck to the mould and could not be removed without damaging it.
6. The first foam of Example B of the Exhibit was demoulded after 4 minutes and 18 additional foams could be made in the same way without any additional treatment of the mould with release agent. It is unknown how many foams of Example B could be made before the mould needed to be retreated with release agent as the experiment was stopped voluntarily after the 18 additional foams were made.
7. The above clearly demonstrates that the mould release techniques of Payne do not apply to traditional flexible foams that are based on polyols having a high polyoxypropylene content.

8. The above also demonstrates that the use of polyols with a high oxyethylene content allows for the reduced number of times an external mould release agent needs to be applied to a mould when making flexible polyurethane foams.

I declare that all statements made of my own knowledge are true, and that all statement made on information and belief are believed to be true. I made these statements with the knowledge that wilful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and may jeopardize the validity of the application or any patent issued thereon.

JANUARY, 22nd, 2009

Date


Hermann Eugene Germain Moreau

EXHIBIT

	Example A	Example B
Daltocel F428	63.17	-
Daltocel F555	-	41.83
Water	2.67	1.83
Tegostab B 8734 LF	0.25	-
DABCO DC 2525	-	0.18
DABCO R8020	0.17	-
JEFFCAT DPA	0.42	-
JEFFCAT ZF22	-	0.06
DABCO 33 LV	-	0.30
Ethanolamine	0.17	-
Daltocel F526	2.10	-
Daltocel F489	-	16.77
Suprasec 6506	31.03	-
Suprasec 1111	-	39.02

DALTOCEL ®F428 polyol is a commercially available polyoxyethylene polyoxypropylene polyol having an oxyethylene content of about 15%w ex Huntsman.

DALTOCEL ®F555 polyol is a commercially available polyoxyethylene polyoxypropylene polyol having an oxyethylene content of about 75%w ex Huntsman.

TEGOSTAB® B 8734 LFsurfactant: surfactant ex Goldschmidt.

DABCO®DC 2525 surfactant: surfactant ex Air Products.

DABCO®R8020 catalyst: amine catalyst ex Air Products.

JEFFCAT® DPA catalyst: amine catalyst ex Huntsman.

JEFFCAT® ZF22 catalyst: amine catalyst ex Huntsman.

DABCO®33 LV catalyst: amine catalyst ex Air Products.

DALTOCEL ®F526 polyol: Polyoxyethylene polyol ex Huntsman.

DALTOCEL ®F489 polyol is a commercially available polyoxyethylene polyoxypropylene polyol having an oxyethylene content of about 30%w ex Huntsman.

SUPRASEC® 6506 prepolymer: Polyisocyanate prepolymer with a high- PO (85% w) polyol content of about 10% by weight commercially available from Huntsman.

SUPRASEC® 1111 prepolymer: Polyisocyanate prepolymer with a high- EO (75% w) polyol content of about 20% by weight commercially available from Huntsman.

To make the foams, Example 1 of the above-identified patent application was repeated. Thus, a flexible polyurethane foam was produced in metal mould rubbed with the same wax as used in said Example 1 and then treated using three coats of the mould release agent, which was prepared by VERBEKE. The mould release agent was applied at 70 degrees Celsius, as mentioned in Payne. Formulations A and B were mixed with a high-pressure injection machine and poured into the treated mould. The mould was closed and the ingredients were allowed to react.